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David E Bennett
Coat & Bennett PLLC
PO Box 5
Raleigh, NC 27602

EXAMINER

DAVIS, TEMICA M

ART UNIT	PAPER NUMBER
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2681

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DATE MAILED: 04/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/498,772

Applicant(s)

RAITH, ALEX KRISTER

Examiner

Temica M. Davis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2/2/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-5,8-26,32-43 and 45-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8,9,36 and 49 is/are allowed.
- 6) ☒ Claim(s) 2-5,10-17-21,23-26,33-35,37-42 and 45-48 is/are rejected.
- 7) ☒ Claim(s) 21,22 and 43 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed February 2, 2004, with respect to the rejection(s) of claim(s) 15-26, 38-43 and 45-49 have been fully considered and are persuasive.

Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection to these claims, and previously allowed claims are made in view of Wan, U.S. Patent 6,385,460 and Chun et al (Chun), U.S. Patent No. 6,564,057.

It is noted that the applicant has argued the differences of Wan and the present application in an amendment/reconsideration filed July 7, 2003. Based on the applicant's arguments in that amendment/reconsideration, the examiner changed the rejection with respect to Wan. However, upon further consideration, the examiner believes that Wan reads on the limitations as presently claimed.

The examiner would like to point out that the applicant does admit on page 14 of that amendment/reconsideration filed July 7, 2003, that Wan discloses a system that measures signal quality as a function of the rate of change in the position of the mobile station, and further states that the present invention looks at the position of the mobile station in determining the rate at which to measure signal quality. The applicant, however, fails to explain the difference between the two. Upon further examination, the examiner has not been able to make a distinction between the two. In one embodiment, Wan discloses that the rate at which signal strength is measured is based on how fast the mobile is traveling and also if the mobile is stationary. In essence, if the mobile

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station is not moving, the position of the mobile is constant and the rate of change in position is zero and there less need to monitor neighboring base stations.

Further the claim language only requires that the rate at which signal quality measurements is a **function** of the relative position of the mobile station. As discussed, Wan uses the speed of the mobile terminal to determine the scanning rate of taking signal strength measurements. It is known that speed is a function the rate of change in position, and as explained above, in certain embodiments, position can be equated to a rate of change in position.

Therefore, based on the claim language, Wan, taken alone and in reasonable combination with other prior art reads on the present invention as set forth in the rejections below.

Claim Objections

2. Claim 4 is objected to because of the following informalities: In line 1, "said position" should read --the position--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 2, 3, 10-17, 20, 21, 23-25, 33-35, 37-42 and 45-48 are rejected under 35 U.S.C. 102(e) as being anticipated by Wan.

Regarding claim 3, Wan discloses a method of channel selection for a mobile station comprising determining a position of said mobile station (col. 7, lines 9-16); periodically performing channel quality measurements of signals transmitted from one or more base stations, wherein the frequency of performing said channel quality measurements is a function of said position of said mobile station (i.e., since the position/change of location is a function of its speed) (col. 8, lines 54-67 and col. 9, line 63-col. 10, line 35); and wherein said frequency of performing said channel quality measurements is a function of the relative position of said mobile station with respect to a first base station serving said mobile station and at least one additional base station as evidenced by the fact that as the mobile station is traveling away from the serving base station at a certain speed, the signal strength is weakening, while at the same time the mobile station is approaching another base station at that speed, wherein the mobile station is detecting a stronger signal strength and wherein this base station has will eventually become the serving base station (col. 1, lines 20-30 and col. 2, lines 21-31).

Regarding claim 2, Wan discloses the channel selection method of claim 8 wherein said frequency of performing said channel quality measurements is a function of the relative position of said mobile station with respect to a first base station serving said mobile station (col. 9, line 63-col. 10, line 35).

Regarding claims 10 and 11, Wan discloses the method of claim 3 wherein said channel quality measurements are performed by said mobile station engaged in a packet switched or circuit switched call (i.e., voice or data call) (col. 3, lines 60-61).

Regarding claim 12, Wan discloses the channel selection method of claim 3 wherein said mobile station uses said channel quality measurement for cell reselection (col. 2, lines 3-9).

Regarding claim 13, Wan discloses the channel selection method of claim 3 further including transmitting said channel quality measurements from said mobile station to a first base station serving said mobile station (col. 1, lines 20-30).

Regarding claim 14, Wan discloses the channel selection method of claim 13, further including making handoff determinations at said first base station based on channel quality measurements (col. 1, lines 20-30).

Regarding claim 33, Wan discloses a mobile station comprising a transceiver (120) for transmitting and receiving radio frequency signals; a signal processor (125) operatively connected to said transceiver for periodically performing channel quality measurements on selected signals received by said transceiver; inherent control logic for controlling said signal processor and said transceiver to vary the frequency of performing said channel quality measurements as a function of the position of said mobile station (col. 8, lines 54-67 and col. 9, line 63-col. 10, line 35); and wherein said control logic varies the frequency of performing said channel quality measurements based on the relative position of said mobile station with respect to a first base station

serving said mobile station and at least one additional base station as explained above (col. 1, lines 20-30 and col. 2, lines 21-31).

Regarding claim 34, Wan discloses the mobile station of claim 33 wherein said control logic varies the frequency of performing said channel quality measurements based on the mobility (speed) of said mobile station (col. 8, lines 54-67 and col. 9, line 63-col. 10, line 35).

Regarding claim 35, Wan discloses the mobile station of claim 33 wherein said control logic varies the frequency of performing said channel quality measurements based on the rate of change of said position (speed) of said mobile station (col. 6, line 52-col. 7, line 16).

Regarding claim 37, Wan discloses the mobile station of claim 33 further including a positioning receiver for determining the position of said mobile station (col. 7, lines 9-16).

Regarding claim 46, Wan discloses a method of controlling a mobile station comprising: determining a position of said mobile station (col. 7, lines 9-16); performing a periodic task (signal quality measurements), wherein the frequency of performing said task is a function of said position of said mobile station (col. 8, lines 54-67 and col. 9, line 63-col. 10, line 35); and wherein said frequency of performing said periodic task is a function of the relative position of said mobile station with respect to a first base station serving said mobile station and at least one additional base station as explained above (col. 1, lines 20-30 and col. 2, lines 21-31).

Regarding claim 47, Wan discloses the control method of claim 46 wherein said frequency of performing said periodic task is a function of the mobility (speed/change in position) of said mobile station (col. 8, lines 54-67 and col. 9, line 63-col. 10, line 35).

Regarding claim 48, Wan discloses the control method of claim 47 wherein said frequency of performing said periodic task is a function of the rate of change of said position of said mobile station (col. 8, lines 54-67 and col. 9, line 63-col. 10, line 35).

Regarding claims 15 and 38, Wan discloses a method of determining the position of a mobile station comprising determining a position of said mobile station at a first time instant and updating said position periodically, wherein a frequency of said updating is a function of said position of said mobile station (i.e., speed is obtained by taking several readings and calculating the change in location over time) (col. 7, lines 9-16, col. 2, lines 15-31).

Regarding claims 16 and 39, Wan discloses the method of claims 15 and 38 wherein said frequency of updating/determining said position is a function of the relative position of said mobile station with respect to a first base station serving said mobile station (col. 1, line 64-col. 2, line 31).

Regarding claims 17 and 40, Wan discloses the method of claim 15 wherein said frequency of updating said position is a function of the relative position of said mobile station with respect to a first base station serving said mobile station and at least one of said additional base station (col. 1, line 64-col. 2, line 31).

Regarding claims 20 and 41, Wan discloses the method of claim 15 wherein said frequency of updating/determining said position is a function of the mobility of said mobile station (col. 1, line 64-col. 2, line 31).

Regarding claims 21 and 42, Wan discloses the method of claim 20 wherein said frequency of updating /determining said position is a function of said position of said mobile station (col. 1, line 64-col. 2, line 31).

Regarding claim 23, Wan discloses the method of claim 15, wherein said updating is performed by said mobile station while said mobile station is in an idle mode (col. 1, line 64-col. 2, line 2).

Regarding claims 24 and 25, Wan discloses the method of claim 15 wherein updating is performed by said mobile station is engaged in a packet switched or circuit switched call (i.e., voice or data call) (col. 3, lines 60-61).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4, 5, 18, 19 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wan in view of Chun.

Regarding claim 4, Wan discloses the channel selection method of claim 3 as described above. Wan however, fails to disclose wherein the position of the at least one additional base station is transmitted to the mobile station by said first base station.

In a similar field of endeavor, Chun discloses a system and method for determining a handoff target base station in a mobile communication system. Chun further discloses wherein a serving base station sends the position of an additional base station to a mobile station (col. 5, lines 18-24, col. 6, lines 35-39 and col. 7, lines 42-60).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Wan with the teachings of Chun for the purpose of allowing the mobile station to know the location of a more suitable handoff candidate (Chun, col. 4, lines 25-28).

Regarding claim 5, the combination of Wan and Chun, discloses the channel selection of claim 4 wherein the position of the additional base station is included in a neighbor list transmitted to the mobile station by the first base station (Chun, col. 5, lines 18-24, col. 6, lines 35-39 and col. 7, lines 42-60).

.Regarding claim 18, Wan discloses the channel selection method of claim 17 as described above. Wan, however, fails to disclose wherein the position of the at least one additional base station is transmitted to the mobile station by said first base station.

Chun discloses this limitation (col. 5, lines 18-24, col. 6, lines 35-39 and col. 7, lines 42-60).

Regarding claim 19, the combination of Wan and Chun discloses the channel selection method of claim 18 wherein the position of the additional base station is

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included in a neighbor list transmitted to the mobile station by the first base station (col. 5, lines 18-24, col. 6, lines 35-39 and col. 7, lines 42-60).

Regarding claim 26, Wan discloses the method of claim 15 as described above. Wan, however, fails to disclose transmitting position information from the mobile station to the base station.

Chun discloses this limitation (col. 5, lines 28-35).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Wan with the teachings of Chun for the purpose of allowing the system to know the location of a more suitable handoff candidate (Chun, col. 5, line 49-col. 6, line 7).

Allowable Subject Matter

7. Claims 8, 9, 36 and 49 are allowed.

8. The following is a statement of reasons for the indication of allowable subject matter: Prior art fails to suggest or render obvious a wherein the frequency of performing signal strength measurements is a function of the length of time a mobile station remains in a position.

9. Claims 21, 22 and 43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Temica M. Davis whose telephone number is (703) 306-5837. The examiner can normally be reached Monday-Friday (alternate Fridays) from 9:00am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Erika Gary can be reached on (703) 308-0123. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Temica M. Davis
Examiner
Art Unit 2681

April 19, 2004


TEMICA M. DAVIS
PATENT EXAMINER